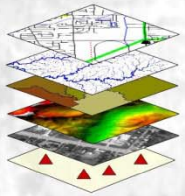
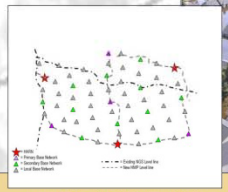
Height Modernization – APPLICATIONS

the importance of accurate elevations



Modern society is becoming increasingly dependent on geographic data that is spatially referenced – horizontally and vertically.



- *In FEMA's National Flood Insurance Program, risk is measured by elevations, so accuracy is critical*
- *Denser control reduces survey costs and improves accuracy of geospatially related data such as LIDAR, photogrammetry, GIS, RTK, construction plans, and evacuation routes*
- *Benefits include more accurate floodplain and insurance rate maps*
- *Monitoring and management of water resources (groundwater vs. surface water) is improved in areas susceptible to subsidence or erosion*

Height Modernization provides the basis for Intelligent Transportation Systems (highway, rail, air, water) for improved safety and efficiency.

- *Accurate water levels referenced to accurate, standardized land elevations enable safe and efficient maritime shipping and navigation*
- *Integration of surface weather and water with road elevations benefits commerce, tourism, and emergency preparedness (planning) by providing near real-time monitoring and positioning information on weather and road conditions (response)*

Precision Agriculture applies GPS technology and management strategies to individual fields to protect the environment, improve productivity, and save time and money.

- *Terrain modeling derived from GPS/Remote Sensing data results in more accurate field boundaries and slope (contour) management for land utilization*
- *Geographic information (GIS) integrating planting and yield rates results in well-defined fertilizer and pesticide application saving resources and reducing run-off*
- *GPS controlled precise steering of farm equipment available today, with remotely operating machinery anticipated in the near future*

Relative (local) and absolute (national) height inconsistencies are eliminated through the use of a common vertical datum -- NAVD88.

NOAA's National Geodetic Survey
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GIS, EMERGENCY MANAGEMENT, INTERPROJECT ALIGNMENT, AIR & SHIP PORTS